



Edc3 siRNA (m): sc-62135

BACKGROUND

The major eukaryotic mRNA decay pathway occurs through deadenylation, decapping, and 5' to 3' degradation of the mRNA. Decapping is a critical control point in this decay pathway. During the process of mRNA degradation, Edc3 has been found to play a role in mRNA decapping. As part of the mRNA degradation process, Edc3 becomes part of a complex that also contains hDcp1a, hDcp2a, RCK and Edc4/HEDLS. Within this complex, Edc3 directly interacts with DCP1A and DDX6. Edc3, enhancer of mRNA-decapping protein 3, is a 508 amino acid protein that maps to human gene EDC3. Edc3 is a member of the EDC3 family and contains one YjeF N-terminal domain. Edc3 is localized to the cytoplasm and is found primarily in the processing bodies (PBs) of the cell. Evidence indicates Edc3 also interacts with TTP (zinc finger protein 36), a candidate gene for obesity-related metabolic complications.

REFERENCES

1. Dunckley, T., et al. 2001. Two related proteins, Edc1p and Edc2p, stimulate mRNA decapping in *Saccharomyces cerevisiae*. *Genetics* 157: 27-37.
2. Schwartz, D., et al. 2003. The enhancer of decapping proteins, Edc1p and Edc2p, bind RNA and stimulate the activity of the decapping enzyme. *RNA* 9: 239-251.
3. Kshirsagar, M., et al. 2004. Identification of Edc as an enhancer of mRNA decapping in *Saccharomyces cerevisiae*. *Genetics* 166: 729-739.
4. Fenger-Grøn, M., et al. 2005. Multiple processing body factors and the ARE binding protein TTP activate mRNA decapping. *Mol. Cell* 20: 905-915.
5. Beausoleil, S.A., et al. 2006. A probability-based approach for high-throughput protein phosphorylation analysis and site localization. *Nat. Biotechnol.* 24: 1285-1292.

CHROMOSOMAL LOCATION

Genetic locus: Edc3 (mouse) mapping to 9 B.

PRODUCT

Edc3 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Edc3 shRNA Plasmid (m): sc-62135-SH and Edc3 shRNA (m) Lentiviral Particles: sc-62135-V as alternate gene silencing products.

For independent verification of Edc3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62135A, sc-62135B and sc-62135C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Edc3 siRNA (m) is recommended for the inhibition of Edc3 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Edc3 (D-6): sc-365024 is recommended as a control antibody for monitoring of Edc3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Edc3 gene expression knockdown using RT-PCR Primer: Edc3 (m)-PR: sc-62135-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.